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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,698	09/05/2003	Eric Viscito	02CON382P-CIP	7178

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EXAMINER
WONG, ALLEN C

ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/655,698	VISCITO ET AL.
	Examiner	Art Unit	
	Allen Wong	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 March 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 3/23/07 have been fully read and considered but they are not persuasive.

The obviousness-type double patenting rejection is withdrawn since the applicant has submitted a terminal disclaimer.

Regarding the last paragraph on page 9 to line 2 on page 10 of applicant's remarks, applicant asserts that the 35 U.S.C.101 rejection has been overcome. The examiner respectfully disagrees. The term "software product" should be removed since it is non-statutory because of the broad implications that a "product" can imply the range from paper on which the program is written, to a program simply contemplated and memorized by a person. As previously suggested, the preamble of claim 15 should be rewritten as "a computer readable-medium *encoded with* a computer program comprising computer executable instructions for encoding each picture in a sequence of pictures, comprising..."

Regarding lines 13-15 on page 10 and the last paragraph on page 10 to line 4 on page 11 of applicant's remarks, applicant states that the arrival schedule with gaps based on removal time differences is not disclosed, taught or suggested by Veltman. The examiner respectfully disagrees. In figure 22B, Veltman discloses that the time at which the first picture enters the pre-decoder buffer 42 is at time t1. The time at which the second picture enters the pre-decoder buffer 42 is at time t2. The time at which the third picture exits the pre-decoder buffer 42 at time t3. And the time at which the fourth

picture exits the pre-decoder buffer 42 at time t4. At element 52, Veltman discloses that the time stamps of the pictures are kept track in element 52 of figure 21, then processed in element 55 for executing the decoding of pictures at video decoder 45, wherein the video input buffer size and video bit rate are used to affect the video input buffer size section 359 to select the number of bits for each picture in a sequence of pictures. Clearly, since there are different times t1, t2, t3 and t4, there are time gap differences for processing multiple pictures in a chronological manner, following some type of schedule based on the encoder and the corresponding time stamps assigned to each picture in a group of pictures. Thus, Veltman does teach the arrival schedule with gaps based on removal time differences. Thus, Veltman discloses selecting, for said picture, a number of bits, wherein the time-equivalent of said number of bits is no greater than a difference based on said pre-decoder buffer removal time of said picture and an initial arrival time of said picture into a pre-decoder buffer.

Since claim 1 is met by Veltman, dependent claims 2-7 are rejected for similar reasons. Independent claims 8 and 15 are rejected for similar reasons as claim 1 since the limitations are similar. Dependent claims 9-14 and 16-21 are rejected for similar reasons as claims 8 and 15.

Thus, the rejection of the claims is maintained.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 15-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 15 defines a "computer software product for encoding..." embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed "computer software product for encoding..." can range from paper on which the program is written, to a program simply contemplated and memorized by a

person. The examiner suggests amending the claim to embody the program on "computer-readable medium" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

The preamble of claim 15 should be rewritten as "a computer readable-medium encoded with a computer program comprising computer executable instructions for encoding each picture in a sequence of pictures..."

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Veltman (5,481,543).

Regarding claims 1 and 15, Veltman discloses a computer software product and a method for encoding each picture in a sequence of pictures, said method comprising the steps of:

assigning a pre-decoder buffer removal time to said picture (fig.22A, element 309);

selecting, for said picture, a number of bits, wherein the time-equivalent of said number of bits is no greater than a difference based on said pre-decoder buffer removal time of said picture and an initial arrival time of said picture into a pre-decoder buffer (fig.22B, note that when the first picture enters the pre-decoder buffer 42, it is a at the

first time t1, and note the second picture enters the pre-decoder buffer 42 at the second

time t2, note the third picture exits the pre-decoder buffer 42 at the third time t3, and

note the fourth picture exits the pre-decoder buffer 42 at the fourth time t4; and that at

element 52, the time stamps of the pictures are kept track in element 52 and then

processed in element 55 for executing the decoding of pictures at video decoder 45,

wherein the video input buffer size and video bit rate are used to affect the video input

buffer size section 359 to select the number of bits for each picture in a sequence of

pictures); and

compressing said picture to generate said number of bits (fig.22A, element

201A).

Regarding claims 2-7 and 16-21, Veltman discloses the thresholds for allocation

of bits for encoding each picture of a group of pictures (figs.19-19, Veltman discloses

there are higher and lower limits for preventing overflow and underflow conditions

during encoding of the pictures).

Regarding claim 8, Veltman discloses an encoder for encoding a picture in a

sequence of pictures, said encoder comprising:

a compressor configured to compress said picture to generate a number of bits

(fig.22A, element 201A);

wherein said encoder is configured to assign a pre-decoder buffer removal time

to said picture and to select, for said picture, said number of bits (fig.22A, element 309);

and

wherein the time-equivalent of said number of bits is no greater than a difference

based on said pre-decoder buffer removal time of said picture and an initial arrival time

of said picture into a pre-decoder buffer (fig.22B, note that when the first picture enters

the pre-decoder buffer 42, it is a at the first time t1, and note the second picture enters

the pre-decoder buffer 42 at the second time t2, note the third picture exits the pre-

decoder buffer 42 at the third time t3, and note the fourth picture exits the pre-decoder

buffer 42 at the fourth time t4; and that at element 52, the time stamps of the pictures

are kept track in element 52 and then processed in element 55 for executing the

decoding of pictures at video decoder 45, wherein the video input buffer size and video

bit rate are used to affect the video input buffer size section 359 to select the number of

bits for each picture in a sequence of pictures).

Regarding claims 9-14, Veltman discloses the thresholds for allocation of bits for

encoding each picture of a group of pictures (figs.19-19, Veltman discloses there are

higher and lower limits for preventing overflow and underflow conditions during

encoding of the pictures).

Conclusion

2.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Allen Wong whose telephone number is (571) 272-7341.

The examiner can normally be reached on Mondays to Thursdays from 8am-6pm

Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John W. Miller can be reached on (571) 272-7353. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Allen   Wong
Primary Examiner
Art Unit 2621

AW
6/5/07